

Scenario planning in organizations: A scoping review of the recent articles

Ali Zakeri*

Futures Studies Group, Faculty of Engineering and Technology, University of Isfahan, City
Name Isfahan, Country Name Iran, a.zackery@ast.ui.ac.ir

Ghazaleh Hekmat Pooya

Futures Studies Group, Faculty of Engineering and Technology, University of Isfahan, City
Name Isfahan, Country Name Iran, ghazalehekmat@gmail.com

Abstract

Objective: Scenario planning is a systematic approach of anticipating alternative futures. In recent years, it has garnered increasing attention as a tool for organizations to navigate uncertainty and make strategic decisions. This scoping review examines the current state of knowledge on scenario planning by exploring its objectives, methodologies, and applications.

Method: Twenty-six articles published between 1990 and 2023 were selected from a comprehensive search of the Scopus database. Through a meticulous review of each article, key information, including definitions, methods, advantages, disadvantages, and types of scenarios presented in the literature, was extracted to identify prevailing patterns and trends in this field.

Results: The findings reveal that scenario planning is employed for diverse purposes, including strategic decision-making, risk management, and the exploration of future complex systems. This review also identifies a wide range of methodological approaches, encompassing qualitative methods (e.g., workshops, expert elicitation) and quantitative methods (e.g., modeling, simulation). The applications of scenario planning span various domains, such as business strategy, public policy, and sustainability.


Conclusion: Overall, this scoping review highlights the versatility and value of scenario planning as a tool for organizations and researchers to prepare for an uncertain future. Therefore, this paper provides a concise and comprehensive overview of the current state of scenario planning using the scoping review method.

Key Words: Scoping review, scenario planning, organization, scenario advantages and disadvantages, scenario methods.

Cite this article: Zakeri, Ali. Hekmat Pooya, Ghazaleh. (2025) Scenario planning in organizations: A scoping review of the recent articles, Volume 9, NO. 2 fall & winter 2025, 242-264

DOI: 10.30479/jfs.2025.21398.1606

Received on: 16 March **Accepted on:** 21 July

Copyright © 2025, The Author(s). 

Publisher: Imam Khomeini International University

Corresponding Author/E-mail: Zakeri, Ali / a.zackery@ast.ui.ac.

Introduction and Objectives

Scenario planning has increasingly gained prominence in recent decades as a key strategic foresight tool for navigating uncertainty. Originally rooted in military analysis, its application has gradually expanded into diverse sectors such as industry, policy-making, environmental management, and sustainable development. This paper aims to analyze the current status of scenario planning and scenario development as academic and practical domains, and to explore their current state through a structured literature review.

Theoretical Background and Research Significance

Previous studies reveal the transformation of scenario planning from a tactical military tool to a multifaceted method widely adopted across disciplines (Schoemaker, 2020). This evolution reflects its growing value in dealing with complexity and ambiguity in strategic decision-making. However, despite its popularity, the field still faces conceptual limitations and a lack of empirical validation. By reviewing the existing body of work, this study identifies these gaps and evaluates the extent to which scenario planning contributes to resilient and adaptive strategies in various contexts.

Methodology

To conduct a structural analysis of the field, a systematic search was performed in the Scopus database using keywords such as "scenario planning," "scenario development," and "scoping review." The selection criteria included valid articles published after the year 1990 with a notable citation record. Following a multi-stage screening process based on titles, abstracts, and full texts, 26 high-impact articles were selected. The analysis was carried out along two dimensions:

Descriptive analysis, which examined publication trends, fields of application, and scenario typologies.

Thematic analysis, which explored core themes such as benefits, challenges, methodological frameworks, and knowledge gaps in the literature.

Findings and Conclusions

The review demonstrated that scenario planning has been widely applied in fields such as strategic management, environmental policy, energy systems,

public governance, and sustainability studies. It was also shown that methodologically, three dominant schools were identified:

1. Probabilistic trend-based scenarios, which use quantitative data and focus on likely futures through statistical forecasting.
2. Intuitive logic, which emphasizes qualitative stakeholder input through group interactions and creative exploration of uncertainties.
3. La Prospective, a French-origin approach that integrates both quantitative modeling and qualitative exploration (Amer et al., 2013; Cordova-Pozo & Rouwette, 2023).

Each school utilizes specific scenario-building techniques—such as morphological analysis, cross-impact analysis, and fuzzy cognitive mapping—which differ in terms of participation level, causal reasoning, scenario orientation (normative vs. exploratory), and incorporation of qualitative vs. quantitative data (Bradfield et al., 2005). These techniques are flexible and can be integrated with other foresight tools such as Delphi, trend analysis, visioning, and simulation (Bishop et al., 2007; Varum & Melo, 2010).

Building on the diverse methodological approaches and techniques discussed earlier, scenario planning offers significant benefits for organizations. It enhances learning by challenging assumptions, stimulating critical thinking, fostering dialogue, and generating new knowledge (Burt & Chermack, 2008; Chermack, 2006; Wright et al., 2020). It supports decision-making by creating structured pathways for assessing options, risks, trade-offs, and strategic actions (Raford, 2015; Ramírez & Selin, 2014). It also informs and shapes strategy by clarifying goals, identifying external drivers, and exploring future contingencies (Chakraborty & McMillan, 2015; Spaniol & Rowland, 2019). Additionally, scenario planning fosters innovation by promoting imagination, creativity, and the identification of transformation opportunities (Bezold, 2010; Mietzner & Reger, 2005). Furthermore, it improves organizational adaptability and resilience by increasing awareness, preparedness, flexibility, and responsiveness to dynamic changes (Chermack, 2005; Cordova-Pozo & Rouwette, 2023). These benefits are reflected in outcome variables identified by Chermack (2002), including changes in mindset, learning, strategic thinking, decision quality, innovation, communication, collaboration, efficiency, and competitive advantage.

Despite its strengths, scenario planning is not without limitations. Its implementation can be complex, time-consuming, and resource-intensive, often requiring high-quality data, expert input, and coordination among stakeholders (Keough & Shanahan, 2008; Wright et al., 2008). The quality of outputs depends on factors like assumption validity, data reliability, scenario coherence, and stakeholder engagement (Raford, 2015). One of the most cited implementation challenges is the difficulty of translating scenarios into concrete strategies and actions, which may be hampered by poor communication, lack of follow-up, or institutional resistance (Chermack et al., 2001; Ramírez & Selin, 2014).

To sum up as Chermack (2015) warns, scenario planning is often misunderstood. It is not merely a technique, but a way of thinking that challenges dominant models about the future. It is not a final product, but a learning journey that involves intuition, curiosity, dialogue, and transformation. It should not be seen as a goal in itself, but as a means to achieve strategic decision-making under deep uncertainty.

Recommendations for Future Research

In light of the identified limitations, future research is encouraged to contextualize scenario planning practices in alignment with local cultural, institutional, and industrial conditions. Moreover, combining scenario development with quantitative modeling techniques or real option method could provide more robust and integrated analytical frameworks. There is also a need to design measurable indicators that can assess the effectiveness and implementation outcomes of scenarios. Lastly, more empirical, practice-oriented studies in national organizations and private firms are required to better understand the real-world impact of scenario planning on decision-making processes and organizational performance.

This paper contributes a structured and comprehensive overview of the academic landscape of scenario planning and can serve as a valuable resource for researchers, managers, students, and policymakers seeking to adopt this approach as a strategic tool for navigating future uncertainties and enhancing adaptive capacity.

References

- Aldabbagh, I., & Allawzi, S. (2019). Rethinking Scenario Planning Potential Role in Strategy Making and Innovation: A Conceptual Framework Based on Examining Trends towards Scenarios and Firm's Strategy. *Academy of Strategic Management Journal*, 18(5), 1-1 .*
- Amer, M., Daim, T. U., & Jetter, A. (2013). A review of scenario planning. *Futures*, 46, 23-40. <https://doi.org/https://doi.org/10.1016/j.futures.2012.10.003>
- Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International journal of social research methodology*, 8(1), 19-32 .
- Balula, L., & Bina, O. (2013). *Key References for Scenario Building*. <https://doi.org/10.13140/RG.2.2.21442.17609>
- Bezold, C. (2010). Lessons from using scenarios for strategic foresight. *Technological Forecasting and Social Change*, 77(9), 1513-1518. <https://doi.org/https://doi.org/10.1016/j.techfore.2010.06.012>
- Bishop, P., Hines, A., & Collins, T. (2007). The current state of scenario development: an overview of techniques. *Foresight*, 9(1), 5 .۲۵-
- Börjesson, L., Höjer, M., Dreborg, K.-H., Ekvall, T., & Finnveden, G. (2006). Scenario types and techniques: Towards a user's guide. *Futures*, 38(7), 723-739. <https://doi.org/https://doi.org/10.1016/j.futures.2005.12.002>
- Burt, G., & Chermack, T. J. (۲۰۰۸) Learning with scenarios: Summary and critical issues. *Advances in Developing Human Resources*, 10(2), 285-295 .
- Chakraborty, A., & McMillan, A. (2015). Scenario Planning for Urban Planners: Toward a Practitioner's Guide. *Journal of the American Planning Association*, 81(1), 18-29. <https://doi.org/10.1080/01944363.2015.1038576>
- Chermack, T. J. (2005). Studying scenario planning: Theory, research suggestions, and hypotheses. *Technological Forecasting and Social Change*, 72(1), 59-73. <https://doi.org/https://doi.org/10.1016/j.techfore.2003.11.003>
- Chermack, T. J. (2011). *Scenario planning in organizations: how to create, use, and assess scenarios*. Berrett-Koehler Publishers .
- Chermack, T. J., & Coons, L. M. (2015). Scenario planning: Pierre Wack's hidden messages. *Futures*, 73, 187-193. <https://doi.org/https://doi.org/10.1016/j.futures.2015.08.012>
- Chermack, T. J., & Lynham, S. A. (2002). Definitions and Outcome Variables of Scenario Planning. *Human Resource Development Review*, 1(3), 366-383. <https://doi.org/10.1177/1534484302013006>